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Docket No.: 01313/100G952-US2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
James Gross et al.

Application No.: 09/774,248

Filed: January 30, 2001

Art Unit: 3761

For: ABSORBENT PRODUCTS WITH IMPROVED
VERTICAL WICKING AND REWET
CAPABILITY

Examiner: Michele M. Kidwell

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants submit this Appeal Brief in triplicate pursuant to the provisions of 37 C.F.R. §1.192. A check in the amount of \$500.00 for the required fee pursuant to 41.20(b)(2) for filing this Appeal Brief is enclosed. A Notice of Appeal was timely filed on April 4, 2005. A one month extension of time and the requisite fee of \$120.00 pursuant to 1.17(a)(1) are also enclosed herewith.

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(1) Real Party in Interest

The real party in interest is the assignee, BKI Holding Corporation (Wilmington, Delaware) of which the sole shareholder is Buckeye Lumberton Inc., which in turn is a wholly owned subsidiary of Buckeye Technologies Inc. (Memphis, Tennessee).

(2) Related Appeals and Interferences

Appellants, Appellants' legal representative, and assignee are not, at this time, aware of any related appeals and/or interferences which will directly affect, be directly affected by, or otherwise have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1-13, 29-30 and 35-36, as set forth in the appendix, stand rejected and are on appeal. Claims 14-28, 31-34 and 37-42 have been cancelled. The status of each claim has been identified in the listing of claims in the appendix.

(4) Status of Amendments

Claims 1-13, 29-30 and 35-36 were finally rejected under 35 U.S.C. §§ 102(b) and 103(a) in an Office Action dated November 2, 2004, in which the Examiner also required cancellation of all nonelected claims as a result of the restriction requirements, and in which the Examiner requested resubmission of information disclosure statements filed May 21, 2001 and July 12, 2001. Following a telephone interview with the Examiner on January 12, 2005, Appellants filed an amendment under 37 C.F.R. § 1.116 on February 2, 2005 amending claims 12, 12, 29, and 35 to include the term "physically independent" to clarify the wicking layer as indicated and agreed upon during the telephone interview and requested reconsideration of the final rejections.

In an Advisory Action dated February 22, 2005, the Examiner indicated that the response did not place the application in condition for allowance, and stated that for purposes of appeal, the proposed amendments would not be entered. Accordingly, Appellants submit this Appeal Brief and respectfully request reconsideration of the rejections.

(5) Summary of the Invention

The present invention relates to a multi-layered airlaid absorbent structure containing a distinct independent wicking layer useful in the manufacture of disposable absorbent hygiene products including disposable diapers, sanitary napkins, surgical drapes, wound dressings, and the like (see specification, page 1, lines 8-14).

The claimed invention is specifically directed to an absorbent core having an acquisition layer, a storage layer, and a wicking layer (see claim 1). The storage layer is placed below the acquisition layer, and the wicking layer is disposed beneath the storage layer. See Figure 1 for a cross-sectional view of one embodiment of the claimed absorbent structure:

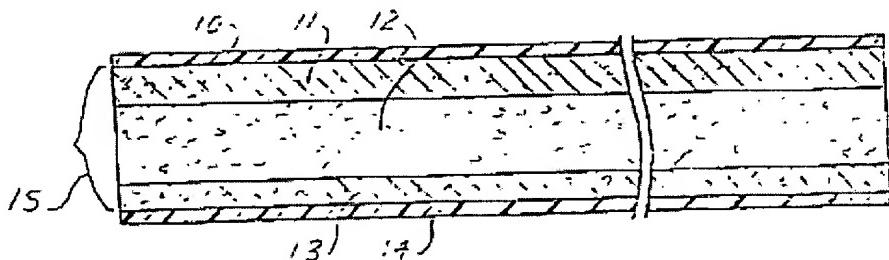


Figure 1

The absorbent article 15 is shown with a moisture permeable topsheet 10, acquisition layer 11, storage layer 12, a wicking layer 13, and a moisture impermeable backsheet 14 (page 13, lines 13-15). The storage layer is in liquid communication with the acquisition layer, and the wicking layer is in fluid communication with the storage layer (page 14, lines 21-30).

In certain embodiments, the wicking layer is made of compressible hardwood pulp (page 10, lines 6-8). In alternative embodiments, synthetic fibers can be substituted for the wood fibers of the wicking layer (page 10, lines 21-22). The wicking layer has a density between about 0.05 to about 0.4 g/cc (page 11, lines 1-4), and the ratio of the vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 1.25 (page 16, lines 22-26).

The absorbent core of the present invention advantageously provides vertical wicking without loss of softness due to compaction of material (page 5, lines 2-3; page 9, lines 19-21). The wicking layer efficiently transports fluid vertically for a greater distance than is possible in a

unitary or homogeneous structure of comparable overall density and distributes fluid laterally into an adjacent storage layer at an overall density and product stiffness that maintains softness, flexibility, and comfort (page 9, lines 21-25).

(6) Issues

- (1) Whether claims 1-6, 10-13, 29-30, and 35-36 are unpatentable under 35 U.S.C. § 102(b) over U.S. Patent No. 5,647,863 (to Hammons et al).
- (2) Whether claims 7-9 are unpatentable under 35 U.S.C. § 103(a) over Hammons in view of U.S. Patent No. 5,919,177 (to Georger et al.) and U.S. Patent No. 4,324,247 (to Aziz).

(7) Grouping of Claims

Claims 1-13, 29-30 and 35-36 stand or fall together.

(8) Argument

A. Hammons does not render claims 1-6, 10-13, 29-30 and 35-36 anticipated.

In the Office Action of November 2, 2004, the Examiner maintained the final rejection of claims 1-6, 10-13, 29-30 and 35-36 under 35 U.S.C. § 102(b) as anticipated by Hammons et al. (U.S. Patent No. 5,647,863). The Examiner erroneously asserted that Hammons disclosed all aspects of the claimed invention (see pages 3-6 of the November 2, 2004 Office Action).

In the telephone interview of January 12, 2005, the rejection of claim 1 was clarified in that the Examiner stated that her reliance on Hammons for a “wicking layer” is defined as items 46 and 48. The Examiner incorrectly stated that the two layers work collectively to provide the features of the claimed wicking layer. In the telephone interview, the Examiner also clarified the rejection of claim 12. The Examiner explained that Hammons’ acquisition layer (44) works as the storage layer, and Hammons’ storage layer (46) works as the wicking layer. Thus, the Examiner re-designated the interpretation of layers to fit accordingly (see page 3 of November 2, 2004 Office Action). According to the Examiner, because claim 12 is an independent claim, she is not required to interpret Hammons in the same way when crafting a rejection of two separate claims (Telephone interview, January 12, 2005). Thus, the Examiner incorrectly concluded that

the presently claimed invention is anticipated by Hammons. Hammons is discussed in detail below.

Hammons teaches an absorbent article with a topsheet (38) and backsheets (40) and an absorbent core (42) (see col. 4:58-67). The absorbent core of Hammons comprises three members: an acquisition layer (44), a storage/distribution layer (46), and an indicator layer (48) (7:23-26). Figures 2 and 3 of Hammons exemplify the embodiments of the invention:

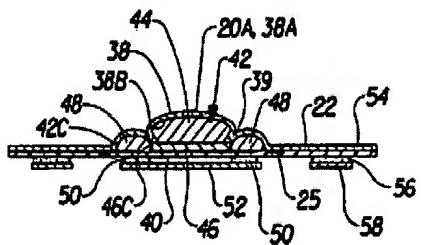


Fig. 2

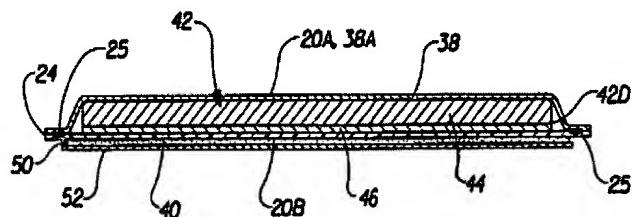


Fig. 3

According to Hammons, the acquisition sheet (44) is between the topsheet (38) and storage/distribution member (46) (7:41-43). The acquisition sheet (44) collects and temporarily holds bodily discharge and transports to the storage/distribution member (7:43-48). The storage/distribution member (46) is positioned below the acquisition member (44) (9:66-10:1). The storage/distribution member both distributes fluid along the longitudinal length of the structure and stores bodily fluids (10:1-8). The storage/distribution member must have higher capillary suction than the acquisition layer and the indicator layer (10:64-66). Accordingly, the storage/distribution member (46) has higher vertical wicking height (11:2-15). The indicator member (48) provides a visual signal that the absorbent article has reached capacity (12:65-67), and has a density range between 0.04 g/cc and 0.10 g/cc with a vertical wicking height of less than about 7 cm (15:3-7). Once fluids exceed the storage/distribution layer, the indicator member begins to absorb the fluid and visually signals that the absorbent article is at capacity and needs to be changed (15:10-15).

Regarding the rejection of independent claim 1, the Examiner stated that,

Hammons discloses an absorbent core (abstract) comprising an acquisition layer (38), a storage layer (44) having absorbent capacity (col. 9, lines 10-18), disposed beneath and in fluid communication with the acquisition layer (figure 3) and a wicking layer (46,48) disposed

beneath and in fluid communication with the storage layer (figure 3), comprising compressible hardwood pulp (col. 12, lines 16-28) and having a density of between about 0.05 and about 0.4 g/cc (col. 15, lines 3-6) where the ratio of the vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 1.25 as set forth in col. 11, lines 11-15.

(p. 3, November 2, 2004 Final Office Action). In the rejection, the Examiner has erroneously aligned the topsheet (38) in Hammons with the acquisition layer of the claimed invention, and further has erroneously aligned the storage layer and indicator member (46, 48) with the wicking layer of the claimed invention. Hammons' indicator member (48), as identified in Figures 2, 4, 5 and 6, flanks the acquisition and storage/distribution members and furthermore is not placed beneath the storage/distribution member (46). As demonstrated in Figure 7, the indicator member (48) is positioned between the backsheet and the storage/distribution member to make a thicker pad (15:16-24), but the indicating portions are still along side or flanking the acquisition and storage/distribution members. In fact, Hammons does not teach or disclose a separate independent wicking layer as presently claimed.

The Examiner also stated that Hammons' so-called "wicking layer" has compressible hardwood pulp, citing column 12, lines 16-28 for support (p. 3, November 2, 2004 Final Office Action). However, this teaching in Hammons is directed to the storage layer. Additionally, the Examiner indicates that the density ranges of Hammons' "wicking" layer are disclosed at column 15, lines 3-6 (p. 3, November 2, 2004 Final Office Action). However, these values are the density values for the indicator layer, not for a wicking layer. Furthermore, the Examiner erroneously relies on column 11, lines 11-15 to teach the ratio of the vertical wicking height of the "wicking" layer to the height of the storage layer. This ratio is instead the ratio of the storage layer to the acquisition layer.

The Examiner has incorrectly equated the storage/distribution layer of Hammons with the storage and wicking layer of the presently claimed invention. The Examiner does not acknowledge that the layers are separate independent layers, not one in the same. The separate wicking layer in the present invention is a novel feature of the present invention, as clearly discussed on page 9, line 19 to page 10, line 5 of the specification. The wicking layer of the claimed invention is disposed below a storage layer and which,

... efficiently transports fluid vertically for a greater distance than is possible in a unitary or homogenous structure of comparable overall density and also distributes the fluid laterally into an adjacent fluid storage layer and does so at an overall density and product stiffness such that the product remains soft, flexible, and comfortable to wear.

(see page 9 lines, 21-27 of the specification). In order to anticipate the claimed invention, the cited art must teach each and every element of the claimed invention. *Electro Med. Sys. v. Cooper Life Sciences*, 34 F.3d 1048, 1052 (Fed. Cir. 1994). Hammons simply fails to teach a separate wicking layer with the claimed density and vertical wicking heights and therefore cannot anticipate claim 1 or any of dependent claims 2 - 6 and 10-11. The dependent claims are also not anticipated, as they depend from claim 1 which is not anticipated.

Regarding the rejection of independent claim 12, the Examiner stated,

Hammons discloses an absorbent article comprising a liquid permeable top sheet (col. 6, lines 64-67), a liquid impermeable back sheet (40) and an absorbent core disposed between the topsheet and the backsheet, comprising an acquisition layer (38), a storage layer (44) having absorbent capacity (col. 9, lines 10-18), disposed beneath and in fluid communication with the acquisition layer (figure 3) and a wicking layer (46) disposed beneath and in fluid communication with the storage layer (figure 3), comprising compressible hardwood pulp (col. 12, lines 16-29) and having a density of between about 0.05 and about 0.4 g/cc (col. 15, lines 3-6) where the ratio of the vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 1.25 as set forth in col. 11, lines 11-15.

(p. 4, November 2, 2004 Final Office Action). In this rejection, the Examiner has made the same incorrect layer designation, with the exception that the “wicking layer” was newly redesignated to constitute only the storage layer (46). It is apparent that the Examiner has ignored the fact the claimed embodiment in claim 12 has a topsheet, as does Hammons (topsheet 38). For the same reasons presented above, claim 12 is not anticipated by Hammons. Dependent claim 13 is also not anticipated as it depends from claim 12. Additionally, Appellants also submit that claims 29-30 and 35-36 are not anticipated by Hammons for the same reasons stated above.

Appellants disagree with the Examiner’s interpretation of Hammons. The Examiner interpreted a layer one way to reject one independent claim, and then interpreted the layer in another way to reject a different independent claim. This manner of interpretation is

impermissible -- when claim terms appear in multiple claims of the same patent, the claim terms should be construed consistently. *Inverness Med. Switz. GmbH v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1371 (Fed. Cir. 2002) (“A claim term used in multiple claims should be construed consistently.”). The Examiner has failed to provide support for her position on interpreting the term in the claims differently, and furthermore Appellants know of no supporting doctrine or policy supporting the Examiner’s position. Additionally, prior art cited against an application is to be interpreted by the disclosure combined with knowledge of one skilled in the art. *See In re Graves*, 69 F.3d 1147, 36 USPQ2d 1667 (Fed. Cir. 1995), *cert. denied*, 517 U.S. 1124 (1996). One skilled in the art would know that particular absorbent layers such as topsheets, storage layers, acquisition layers, and wicking layers are unique, that they are defined distinctly in the art, that they serve very different functions, and thus absorbent layers would not be considered interchangeable by one of ordinary skill in the art. Only through impermissible hindsight might one skilled in the art be motivated to devise a separate wicking layer. *See In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (“One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”). Therefore, reversal of the rejection over Hammons is required.

B. Hammons, in view of Georger and Aziz, does not render claims 7-9 obvious.

In the Office Action of November 2, 2004, the Examiner maintained the final rejection of claims 7-9 under 35 U.S.C. §103(a) as obvious over Hammons in view of U.S. Patent No. 5,919,177 (to Georger et al.) and U.S. Patent No. 4,324,247 (to Aziz). The Examiner concedes that Hammons fails to associate a numerical value to rewet characteristics, however she asserts that it would have been obvious to one skilled in the art to correspond a “low rewet value” to a value of less than one gram (relying on col. 5, lines 17-19). The Examiner relies on Georger and Aziz as demonstrating rewet values of less than one gram. According to the Examiner, it would have been obvious for one skilled in the art to combine these references to arrive at the presently claimed invention.

As noted above, Hammons fails to teach the presently claimed invention. Hammons does not teach an absorbent core with a physically separate wicking layer. The Examiner’s reliance on column 5, lines 17-19 is misplaced in that this specific excerpt is a description applying to the

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topsheet of Hammons, not to the absorbent core which is defined in Hammons as including the acquisition layer (44), storage layer (46), and the indicator layer (48). Hammons states,

The topsheet 38 should exhibit good strike-through and low rewet characteristics, permitting bodily discharges to rapidly penetrate the thickness of the topsheet 38 and move into the acquisition member 44 and sequentially into the storage/distribution member 46, but not flow back through the topsheet 38 to the skin of the wearer.

(Hammons, 5:17-22). In this instance, the categorization of the layers is clearly not just different by name, but is in fact a clear description of a topsheet, separate from any absorbent core. Therefore, Hammons not only fails to teach or suggest a wicking layer, Hammons also fails to teach low rewet characteristics for an absorbent core.

The Examiner is incorrect in asserting that one skilled in the art would necessarily know the numerical value for “low rewet values”. Mere awareness in the art is not sufficient to establish obviousness. *See In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001) (Deficiencies of references cannot be saved by appeals to “common sense” and basic knowledge” without any evidentiary support); *see also Micro Chem., Inc. v. Great Plains Chem. Co., Inc.*, 103 F.3d 1538, 41 USPQ2d 1238 (Fed. Cir. 1997) *cert denied*, 521 U.S. 1122, 1244 (1997) (“A determination of obviousness must involve more than indiscriminately combining prior art; a motivation or suggestion to combine must exist.”). Rather, obviousness can only be established where there is some teaching, suggestion or motivation in the prior art that would have led a person of ordinary skill to combine or modify the references. *See In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995); *see also In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). The Examiner attempts to rely on Georger and Aziz for the missing rewet values, however, providing the teachings of Georger and Aziz with Hammons fail to achieve the presently claimed invention. Georger teaches a low rewet value for an absorbent material with an apertured, film-coated, lofty nonwoven fabric. Applicants submit that even with this teaching, the prior art does not arrive at the presently claimed invention. Likewise, Aziz teaches a range of rewet values above and below 1.0 gram. However, again, this teaching fails to provide the missing teachings of Hammons.

The Examiner has failed to provide clear motivation or suggestion to combine these separate references to arrive at the claimed invention. *See Micro Chem., Inc. v. Great Plains Chem. Co., Inc.*, 103 F.3d 1538, 41 USPQ2d 1238 (Fed. Cir. 1997) *cert. denied*, 521 U.S. 1122, 1244 (1997). (“A determination of obviousness must involve more than indiscriminately combining prior art; a motivation or suggestion to combine must exist.”). Simply because one reference teaches “low rewet values” in a type of absorbent layer does not provide any motivation to form the same low rewet values in an entirely different layer with an entirely different purpose. There is no disclosure in any of the cited references that would have led a person of ordinary skill in the art to have made this specific choice and modification. Therefore, the Examiner has failed to provide any real evidence showing that one of ordinary skill would have been motivated to combine the references. *In re Dembiczaik*, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (“This showing [motivation] must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not evidence.”). At best, the Examiner uses improper hindsight in the present rejection. *See In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988); *see also In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998) (“To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness.”).

Claims 7-9 are nonobvious over Hammons in view of Georger and Aziz. As noted above, the combined references must teach each and every limitation of the claimed invention. By combining these two references, one skilled in the art would not have arrived at the presently claimed invention. Furthermore, even when combined through the impermissible use of hindsight, the various elements of the cited references cannot be combined in any way to produce the claimed invention. Accordingly, the Examiner has failed to make a *prima facie* case of obviousness. Reversal of the rejection of claims 7-9 over Hammons in view of Georger or Aziz is required.

CONCLUSION

For the foregoing reasons, the cited prior art references would not have rendered the presently claimed invention anticipated or obvious. The rejections of claims 1-13, 29-30 and 35-36 should be reversed by the Board.

Attached as Appendix A is a copy of pending claims 1-13, 29-30 and 35-36.

Dated: June 24, 2005

Respectfully submitted,

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APPENDIX A**Claims at Issue on Appeal**

1. (Rejected) An absorbent core comprising:
 - (1) an acquisition layer;
 - (2) a storage layer having absorbent capacity, disposed beneath and in fluid communication with the acquisition layer, and
 - (3) a wicking layer disposed beneath and in fluid communication with the storage layer, comprising compressible hardwood pulp and having a density of between about 0.05 and about 0.4 g/cc, where the ratio of the vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 1.25.
2. (Rejected) The absorbent core of claim 1, wherein the ratio of vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 3.0.
3. (Rejected) The absorbent core of one of claims 1, wherein the compressible hardwood pulp is selected from the group consisting of eucalyptus, birch, aspen, maple, cotton wood, willow, oak, beech, poplar, basswood and combinations thereof.
4. (Rejected) The absorbent core of claim 3, wherein the compressible hardwood pulp is eucalyptus.
5. (Rejected) The absorbent core of one of claims 1, wherein the wicking layer further comprises softwood fibers.
6. (Rejected) The absorbent core of one of claims 1, wherein the wicking layer is imprinted with a compression pattern.

7. (Rejected) The absorbent core of one of claims 1, wherein the core has a rewet value of about 3.0 g or less.

8. (Rejected) The absorbent core of claim 7, wherein the core has a rewet value of about 2.0 g or less.

9. (Rejected) The absorbent core of claim 8, wherein the core has a rewet value of about 1.0 g or less.

10. (Rejected) The absorbent core of one of claims 1, wherein the wicking layer has a density of between 0.1 and 0.3 g/cc.

11. (Rejected) The absorbent core of one of claims 1, wherein the absorbent core is a unitary absorbent core produced in a series of unit operations in a continuous process.

12. (Rejected) An absorbent article comprising:

- (A) a liquid permeable top sheet,
- (B) a liquid impermeable back sheet, and
- (C) an absorbent core disposed between the topsheet and the backsheet, comprising:
 - (1) an acquisition layer disposed beneath and in fluid communication with the topsheet;
 - (2) a storage layer having absorbent capacity disposed beneath and in fluid communication with the acquisition layer, and
 - (3) a wicking layer disposed beneath and in fluid communication with the storage layer, comprising compressible hardwood pulp and having a density of between 0.05 and 0.4 g/cc, where the ratio of the vertical wicking height of the wicking layer to the vertical wicking height of the storage layer is equal to or greater than 1.25.

13. (Rejected) The article of claim 12, wherein the article is selected from the group consisting of infant diapers, training pants, adult incontinence briefs, feminine hygiene pads, surgical drapes and wound dressings.

14. - 28. Cancelled.

29. (Rejected) An absorbent core comprising:

- (1) an acquisition layer;
- (2) a storage layer having absorbent capacity disposed beneath and in fluid communication with the acquisition layer; and
- (3) a wicking layer disposed beneath and in fluid communication with the storage layer, comprising compressible hardwood pulp.

30. (Rejected) The absorbent core of claim 29, wherein the wicking layer comprises from about 50 percent by weight to about 99.9 percent by weight of hardwood fibers and from about 0.1 percent by weight to about 50 percent by weight synthetic fibers, the storage layer includes materials selected from the group consisting of synthetic fibers, chemically treated cellulosic fibers, wood pulp, superabsorbents and combinations thereof, and has a density of between 0.05 and 0.25 g/cc, and the acquisition layer includes materials selected from the group consisting of cross-linked cellulose fibers, synthetic fibers, and combinations thereof, and has a density of between 0.04 to 0.1 g/cc.

31. - 34. Cancelled.

35. (Rejected) An absorbent core comprising:

- (1) an acquisition layer;
- (2) a storage layer having absorbent capacity disposed beneath and in fluid communication with the acquisition layer; and

(3) a web imprinted wicking layer disposed beneath and in fluid communication with the storage layer, comprising compressible wood pulp in which there is a pattern of densified regions and less densified regions.

36. (Rejected) The absorbent core of claim 31, wherein the wicking layer comprises from about 50 percent by weight to about 99.9 percent by weight of wood fibers and from about 0.1 percent by weight to about 50 percent by weight synthetic fibers, the storage layer includes materials selected from the group consisting of synthetic fibers, chemically treated cellulosic fibers, wood pulp, superabsorbents, and combinations thereof, and has a density between 0.05 and 0.25 g/cc, and the acquisition layer includes material selected from the group consisting of crosslinked cellulose fibers, synthetic fibers, and combinations thereof and has a density of between 0.04 and 0.1 g/cc.

37. - 42. Cancelled.